

Chapter 12

Stormwater Management Ordinance

Subd. 1. Statutory Authorization and General Policy. This Ordinance is adopted pursuant to the authorization and policies contained in Minnesota Statutes Chapters 103B, 105, 462, and 497, Minnesota Rules, Parts 6120.2500-6120.3900, and Minnesota Rules Chapters 8410 and 8420 and goals and policies contained in the most recent Comprehensive Stormwater Management Plan for the City of Alexandria.

Subd. 2. Purpose. The purpose of this Ordinance is to set forth the minimum requirements for stormwater management that will diminish threats to public health, safety, public and private property and natural resources of the City by establishing performance standards including:

- A. Protect life and property from dangers and damages associated with flooding.
- B. Protect public and private property from damage resulting from runoff or erosion.
- C. Control the annual runoff rates from post development site conditions to match the annual runoff rates from predevelopment site conditions.
- D. Promote site design that minimizes the generation of stormwater and maximizes pervious areas for stormwater treatment.
- E. Promote regional stormwater management by watershed.
- F. Provide a single, consistent set of performance standards that apply to all developments.
- G. Protect water quality from nutrients, pathogens, toxics, debris and thermal stress.
- H. Promote infiltration and groundwater recharge.
- I. Providing a vegetated corridor (buffer) to protect water resources from development.
- J. Protect or improve the water quality of local lakes, wetlands and water bodies.
- K. Protect and enhance fish, wildlife and habitat and recreational opportunities.
- L. Control runoff volumes resulting from development within designated sub-watersheds through appropriate infiltration practices.

Subd. 3. Scope. No person shall develop any land for residential, commercial, industrial, or institutional uses without having provided stormwater management measures that control or manage runoff from such developments as provided in this Section.

Subd. 4. Definitions. Unless specifically defined below, words or phrases used in this Section shall be interpreted so as to give them the same meaning as they have in common usage and to give this Section its most reasonable application. For the purpose of this Section, the words "must" and "shall" are mandatory and not permissive. All distances, unless otherwise specified, shall be measured horizontally.

- A. **Applicant** - Any person or group that applies for a building permit, subdivision approval, or a permit to allow land disturbing activities. Applicant also means that person's agents, employees, and others acting under this person's or group's direction. The term "applicant" also refers to the

permit holder or holders and the permit holder's agents, employees, and others acting under this person's or group's direction.

- B. **Best Management Practice (BMP)** - Best management practice is a technique or series of techniques which are proven to be effective in controlling runoff, erosion and sedimentation.
- C. **Buffer** – A regulated area where scrutiny will be exercised over activities near wetlands and water bodies and a non-disturbance area where natural vegetation must be maintained.
- D. **Common Plan of Development or Sale** - A contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, or on different schedules, but under one proposed plan. This item is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land disturbing activities may occur.
- E. **Developer** - Any person, group, firm, corporation, sole proprietorship, partnership, state agency, or political subdivision thereof engaged in a land disturbance activity.
- F. **Development** - Any land disturbance activity that changes the site's runoff characteristics in conjunction with residential, commercial, industrial or institutional construction or alteration.
- G. **Dewatering** - The removal of water for construction activity. It can be a discharge of appropriated surface or groundwater to dry and/or solidify a construction site. It may require Minnesota Department of Natural Resources permits to be appropriated and if contaminated may require other MPCA permits to be discharged.
- H. **Discharge** - The release, conveyance, channeling, runoff, or drainage, of storm water including snowmelt, from a construction site.
- I. **Energy Dissipation** - This refers to methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to; aprons, riprap, splash pads, and gabions that are designed to prevent erosion.
- J. **Erosion** - Any process that wears away the surface of the land by the action of water, wind, ice, or gravity.
- K. **Erosion Control** - Refers to methods employed to prevent erosion. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.

- L. **Exposed Soil Areas** - All areas of the construction site where the vegetation (trees, shrubs, brush, grasses, etc.) or impervious surface has been removed, thus rendering the soil more prone to erosion. This includes topsoil stockpile areas, borrow areas and disposal areas within the construction site. It does not include temporary stockpiles or surcharge areas of clean sand, gravel, concrete or bituminous, which have less stringent protection. Once soil is exposed, it is considered "exposed soil," until it meets the definition of "final stabilization."
- M. **Filter Strips** - A vegetated section of land designed to treat runoff as overland sheet flow. Their dense vegetated cover facilitates pollutant removal and infiltration.
- N. **Final Stabilization** - Means that all soil disturbing activities at the site have been completed, and that a uniform (evenly distributed, e.g., without large bare areas) perennial vegetative cover with a density of seventy (70) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures have been employed. Simply sowing grass seed is not considered final stabilization. Where agricultural land is involved, such as when pipelines are built on crop or range land, final stabilization constitutes returning the land to its preconstruction agricultural use.

For individual lots in residential construction by either: (a) The homebuilder completing final stabilization as specified above, or (b) the homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or

For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land) final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters and drainage systems, and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization criteria in (a) or (b) above.

- O. **Hydric Soils** - Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.
- P. **Hydrophytic Vegetation** - Macrophytic (large enough to be observed by the naked eye) plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

- Q. **Impervious Surface** - A constructed hard surface that either prevents or retards the entry of water into the soil, and causes water to run off the surface in greater quantities and at an increased rate of flow than existed prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.
- R. **Land Disturbance Activity** - Any land change that may result in soil erosion from water or wind and the movement of sediments into or upon waters or lands within this government's jurisdiction, including construction, clearing & grubbing, grading, excavating, transporting and filling of land. Within the context of this Section, land disturbance activity does not mean: Minor land disturbance activities such as home gardens and an individual's home landscaping, repairs, and maintenance work, unless such activity exceeds one half acre in exposed soil. Additions or modifications to existing single family structures which result in creating under one half acre of exposed soil or impervious surface and/or is part of a larger common development plan. Construction, installation, and maintenance of fences, signs, posts, poles, and electric, telephone, cable television, utility lines or individual service connections to these utilities, which result in creating under one half acre of exposed soil or impervious surface. Tilling, planting, or harvesting of agricultural, horticultural, or silvicultural (forestry) crops. Emergency work to protect life, limb, or property and emergency repairs, unless the land disturbing activity would have otherwise required an approved erosion and sediment control plan, except for the emergency. If such a plan would have been required, then the disturbed land area shall be shaped and stabilized in accordance with the City's requirements as soon as possible.
- S. **Land Locked Basin** - Defined as a low area such as a lake, pond, or wetland entirely surrounded by land with no regularly active outlet channel.
- T. **Large Site Construction Activity** - Includes clearing, grading or excavation that disturbs one (1) or more acres or less than five acres of total land area that is part of a larger common plan of development or sale if the larger common plan will disturb five (5) acres or more.
- U. **National Pollutant Discharge Elimination System (NPDES)** - The program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act (Sections 301, 318, 402, and 405) and United States Code of Federal Regulations Title 33, Sections 1317, 1328, 1342, and 1345.
- V. **Native Vegetation** - The presettlement (already existing in Minnesota at the time of statehood in 1858) group of plant species native to the local region, that were not introduced as a result of European settlement or subsequent human introduction.

- W. **Ordinary High Water Mark** - The boundary of public waters and wetlands, and shall be an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses, the ordinary high water level is the elevation of the top of the bank of the channel. For reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool.
- X. **Owner** - The person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.
- Y. **Paved Surface** - A constructed hard, smooth surface made of asphalt, concrete or other pavement material. Examples include, but are not limited to, roads, sidewalks, driveways and parking lots.
- Z. **Permanent Cover** - Means "final stabilization." Examples include grass, gravel, asphalt, and concrete. See also the definition of "final stabilization."
- AA. **Permit** - Within the context of this Section a "permit" is a written warrant or license granted for construction, subdivision approval, or to allow land disturbing activities.
- BB. **Phased Project or Development** - Clearing a parcel of land in distinct phases, with at least fifty percent (50%) of the project's preceding phase meeting the definition of "final stabilization" and the remainder proceeding toward completion, before beginning the next phase of clearing.
- CC. **Prohibited Discharge** - Any substance which, when discharged has potential to or does any of the following: (1) Interferes with state designated water uses; (2) Obstructs or causes damage to waters of the state; (3) Changes water color, odor, or usability as a drinking water source through causes not attributable to natural stream processes affecting surface water or subsurface processes affecting groundwater; (4) Adds an unnatural surface film on the water; (5) Adversely changes other chemical, biological, thermal, or physical condition, in any surface water or stream channel; (6) Degrades the quality of ground water; or (7) Harms human life, aquatic life, or terrestrial plant and wildlife. This includes but is not limited to dredged soil, solid waste, incinerator residue, garbage, wastewater sludge, chemical waste, biological materials, radioactive materials, rock, sand, dust, industrial waste, sediment, nutrients, toxic substance, pesticide, herbicide, trace metal, automotive fluid, petroleum-based substance, and oxygen-demanding material.

- DD. **Saturated Soil** - The highest seasonal elevation in the soil that is in a reduced chemical state because of soil voids being filled with water. Saturated soil is evidenced by the presence of redoximorphic features or other information.
- EE. **Sediment** - The product of an erosion process; solid material both mineral and organic, that is in suspension, is being transported, or has been moved by water, wind, or ice, and has come to rest on the earth's surface either above or below water level.
- FF. **Sedimentation** - The process or action of depositing sediment.
- GG. **Sediment Control** - The methods employed to prevent sediment from leaving the development site. Examples of sediment control practices are silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.
- HH. **Small Site Construction Activity** - Includes clearing, grading or excavation, that disturbs one-half acre ($\frac{1}{2}$) to one (1) acre, or less than one (1) acre of total land area that is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre.
- II. **Soil** - The unconsolidated mineral and organic material on the immediate surface of the earth. For the purposes of this document temporary stockpiles of clean sand, gravel, aggregate, concrete or bituminous materials (which have less stringent protection) are not considered "soil" stockpiles.
- JJ. **Stabilized** - The exposed ground surface after it has been covered by sod, erosion control blanket, riprap, pavement or other material that prevents erosion. Simply sowing grass seed is not considered stabilization.
- KK. **Steep Slope** - Any slope steeper than twelve (12) percent (Twelve (12) feet of rise for every one hundred (100) feet horizontal run).
- LL. **Stormwater** - Under Minnesota Rule 7077.0105, subpart 41b stormwater, "means precipitation runoff, stormwater runoff, snow melt runoff, and any other surface runoff and drainage. Stormwater does not include construction site dewatering.
- MM. **Stormwater Management Plan (also referred to as Stormwater Pollution Prevention Plan SWPPP)** - A joint stormwater and erosion and sediment control plan that is a document containing the requirements of this Section, that when implemented will decrease soil erosion on a parcel of land and off-

site nonpoint pollution. It may involve both temporary and permanent controls.

- NN. **Stormwater Manual** – The most recent version of the Minnesota Pollution Control Agency (MPCA) Minnesota Stormwater Manual. This Manual is the compilation of design, performance, and review criteria approved by the by the City for stormwater management practices.
- OO. **Structure** - Anything manufactured, constructed or erected which is normally attached to or positioned on land, including portable structures, earthen structures, roads, parking lots, and paved storage areas.
- PP. **Subdivision** - Any tract of land divided into building lots for private, public, commercial, industrial, etc. development.
- QQ. **Surface Water** - All streams, lakes, ponds marches, wetlands, reservoirs, springs, rivers, drainage systems, waterways, watercourses and irrigation systems whether natural or artificial public or private.
- RR. **Temporary Erosion Protection** - Short-term methods employed to prevent erosion. Examples of such protection are straw, mulch, erosion control blankets, wood chips, and erosion netting.
- SS. **Vegetated or Grassy Swale** - A vegetated earthen channel that conveys storm water, while treating the stormwater by biofiltration. Such swales remove pollutants by both filtration and infiltration.
- TT. **Waters of the State** - As defined in Minnesota Statutes section 115.01, subdivision 22 the term ‘waters of the state’ means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.”
- UU. **Wet Detention Facility** - Depressions constructed by excavation and embankment procedures to store excess runoff temporarily on a site. After a runoff event, overflow from the pond is released at a controlled rate by an outlet device designed to release flows at various peak rates and elevations until the design elevation of the pool is reached. Wet detention facilities maintain a permanent pool of water between storm events. Wet detention facilities are located to collect stormwater inflows from adjacent drainage areas and are usually designed to control peak discharges from relatively large design storms.

- VV. **Wetland** - As defined in Minnesota Rules 7050.0130, subpart F, “. . . ‘wetlands’ are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state.

Subd. 5. Management of Site Vegetation. Any landowner shall provide for the installation and maintenance of vegetation on their property in accordance with the following criteria, regardless as to whether or not a stormwater management plan, stormwater permit has been approved or is necessary under this Section. Failure to comply with this section shall constitute a violation and subject the landowner to the enforcement provisions, penalties and noncompliance actions outlined in this Section.

- A. **Use of Impervious Surfaces:** No person shall apply items included in the definition of "prohibited discharge" on impervious surfaces or within stormwater drainage systems with impervious liners or conduits.
- B. **Unimproved Land Areas:** Except for driveways, sidewalks, patios, areas occupied by structures, landscaped areas, or areas that have been otherwise improved, all areas shall be covered by plants or vegetative growth.
- C. **Use of Pervious Surfaces:** No person shall deposit grass clippings, leaves, or other vegetative materials, with the exception of normal mowing or weed control, within natural or manmade watercourses, wetlands, or within wetland buffer areas. No person shall deposit items included in the definition of "prohibited discharge" except as noted above.

Subd. 6. Stormwater Management Plans and Permits.

- A. **Required.** A stormwater management plan and permit shall be required, and all construction site erosion and sediment control provisions of this permit shall apply, to all land disturbing activities associated with construction activity, as defined in this Section.
 - 1. Every applicant for a building permit that involves disturbing ½ acre or more of land, subdivision approval, or other permit to allow ½ acre or more land disturbing activities must submit a stormwater management plan (also referred to as a Stormwater Pollution Prevention Plan - SWPPP) to the City. No land shall be disturbed nor shall any building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until approval of this plan.
 - 2. All plans, excepting those required as a part of small site construction activity, shall be consistent with National Pollution Discharge Elimination

Permit (NPDES) requirements, and the filing or approval requirements of the Douglas County Soil and Water Conservation District or other regulatory bodies. All stormwater mitigation and management technologies shall be consistent with the most recent version of the Minnesota Pollution Control Agency (MPCA) General Stormwater Permit for Construction Activity and the Minnesota Stormwater Manual. This Manual is the compilation of design, performance, and review criteria approved by the City for stormwater management practices.

Subd. 7. Stormwater Management Plan Submittal Requirements.

A. Small Site Construction Application. Small site construction projects shall be developed and in compliance with a stormwater management plan that includes the following:

1. Two sets of clearly legible copies of permit submittals and required information shall be submitted to the City and shall be accompanied by all applicable fees.
2. Drawings shall be prepared to a scale appropriate to the site of the project and suitable for the review to be performed. At a minimum, the scale shall be 1 inch equals 50 feet.
3. Included on all submittals shall be the project name and the date of preparation.
4. Also included on all submittals shall be:
 - a. Names, addresses and phone numbers of the land surveyor, and engineer, if any.
 - b. Property boundaries.
 - c. Area(s) to be disturbed.
 - d. Spot elevations of proposed grades in relation to existing grades on the subject property and adjacent properties.
 - e. Drainage arrows depicting water movement.
 - f. Areas where finished slope will be steeper than 5:1 shall be noted.
 - g. Location and type of erosion/sediment control devices.
 - h. Location of storm drains, wetlands, sediment ponds and lakes.
 - i. Location of material stockpiles.
 - j. Plan for temporary site stabilization.
 - k. Plan for final site stabilization.
 - l. Temporary rock entrance location.
 - m. Name of individual responsible for installation and maintenance of control devices.
 - n. Any other information pertinent to the particular project that, in the opinion of the City, is necessary for the review of the project.

B. Large Site Construction Application. Large Site Construction Projects shall be consistent with the most recent version of the Minnesota Pollution Control

Agency's NPDES General Stormwater Permit for Construction Activity and include the minimum requirements:

1. Identification and description including:
 - a. Project name.
 - b. Project type (residential, commercial, industrial, road construction, or other).
 - c. Project location
 - d. Parcel identification number (legal description).
 - e. Names and addresses of the record owner, developer, land surveyor, engineer, designer and any agents, contractors, and subcontractors who will be responsible for project implementation.
 - f. Identification of the entity responsible for long term maintenance of the project. This includes a maintenance plan and schedule for all permanent stormwater practices.
 - g. Phasing of construction with estimated start date, time frames and schedules for each construction phase, and completion date.
 - h. Copies of permits or permit applications required by any other governmental entity or agencies including mitigation measures required as a result of any review for the project (e.g. wetland mitigation, EAW, EIS, archaeology survey, etc.).
2. Existing Conditions - A complete site plan and specifications, signed by a person who is certified to design the plan shall be drawn to an easily legible scale, shall be clearly labeled with a north arrow and a date of preparation, and shall include, at a minimum, the following information:
 - a. Project map – An 8.5 by 11 inch United States Geological Survey (USGS) 7.5 minute quad or equivalent map indicating site boundaries and existing elevations.
 - b. Property lines and lot dimensions.
 - c. Existing zoning classifications for land within and abutting the development, including shoreland, floodway, flood fringe, or general floodplain, and other natural resource overlay districts.
 - d. All buildings and outdoor uses including all dimensions and setbacks.
 - e. All public and private roads, interior roads, driveways and parking lots.
 - f. Identify all natural and artificial water features (including drain tiles that would affect the project site) on site and within one (1) mile of project boundary, including, but not limited to lakes, ponds, streams (including intermittent streams), and ditches. Show ordinary high water marks of all navigable waters, 100-year flood elevations and delineated wetland boundaries, if any. If not available, appropriate flood zone determination or wetland delineation, or both, may be required at the applicant's expense.

- g. Map of watershed drainage areas, soil types, infiltration rates, depth to bedrock, and depth to seasonal high water table.
 - h. Steep slopes where areas of 12% or more existing over a distance for 50 feet or more.
 - i. Bluff areas where the slope rises at least 25 feet above the toe of the bluff and the grade of the slope from the toe of the bluff to a point 25 feet or more above the toe of the bluff averages 30% or greater.
 - j. Wooded area and tree survey as defined by the zoning authority.
 - k. Agricultural Land preservation area(s), County Biological Survey sites, or other officially designated natural resource.
 - l. Hydrologic calculations for volume runoff, velocities, and peak flow rates by watershed, for the 2.0-yr, 10-yr, and 100-yr 24-hour storm events. These shall include: Pre-existing peak flow rates, Assumed runoff curve numbers, Time of concentration used in calculations, If a flood insurance study has been done by the National Flood Insurance Program, the 100-year flood elevation with and without the floodway.
3. Bankfull discharge rate (1.5 year recurrence interval) of creek or stream if there is a waterway on the site or if the site discharges directly to the waterway.
4. Proposed Conditions - A complete site plan and specifications, signed by the person who designed the plan shall be drawn to an easily legible scale, shall be clearly labeled with a north arrow and a date of preparation, and shall include, at a minimum, the following information:
- a. Project map – An 8.5 by 11 inch United States Geological Survey (USGS) 7.5 minute quad or equivalent map indicating site boundaries, proposed elevations, and areas not to be disturbed;
 - b. Property lines and lot dimensions of plat.
 - c. The dimensions and setbacks of all buildings and easements.
 - d. The location and area of all proposed impervious surfaces including public and private roads, interior roads, driveways, parking lots, pedestrian ways, and rooftops. Show all traffic patterns and types of paving and surfacing materials.
 - e. Location, size, and approximate grade of proposed public sewer and water mains.
 - f. Elevations, sections, profiles, and details as needed to describe all natural and artificial features of the project.
 - g. Identify all natural and artificial water features on site and within one (1) mile of project boundary, including, but not limited to lakes, ponds, streams (including intermittent streams), and ditches. Show ordinary high water marks of all navigable waters, 100-year flood elevations and delineated wetland boundaries, if any. If not

- available, appropriate flood zone determination or wetland delineation, or both, may be required at the applicant's expense.
- h. Location and engineered designs for structural stormwater management practices including stormwater treatment devices that remove oil and floatable material (e.g., basin outlets with submerged entrances).
 - i. Normal water level, high water level, and emergency overflow elevations for the site.
 - j. For discharges to cold water fisheries, a description and plans to control temperature from stormwater runoff.
 - k. Floodway and flood fringe boundary, if available.
 - l. Any other information pertinent to the particular project that, in the opinion of the City, is necessary for the review of the project.
5. All proposed stormwater practices, hydrologic models, and design methodologies shall be reviewed by the City and certified for compliance by the City in accordance with their plans and specifications.
6. A detailed schedule indicating dates and sequence of land alteration activities; implementation, maintenance and removal of erosion and sedimentation control measures; and permanent site stabilization measures shall be provided.
7. A detailed description of how erosion control, sediment control and soil stabilization measures implemented pursuant to the plan will be monitored, maintained and removed. The plan must identify a person knowledgeable and experienced in erosion and sediment control who will oversee the implementation of the plan and the installation, inspection, and maintenance of the temporary and permanent stormwater management system. This person shall have completed an approved training and certification program.

Subd. 8. Permit Transfer. A permit runs with the property it covers, until the permitted activities are completed, and is transferable to new landowners in its entirety or by parcel, with each parcel being subject to the permit and any conditions that apply to that parcel. In the event land under such a permit is transferred or conveyed in fee, such transfer or conveyance must be reported in writing to the City and the new landowner within 7 days of the transfer. This section refers to City-issued permits and does not release the permittee or owner from transfer requirements of a NPDES permit.

Subd. 9. Stormwater Management Plan Review Procedures.

- A. **Review Timeframe.** The City will complete a review of the plan within twenty (20) days of receiving the plan from the developer.

- B. **Meeting Requirements.** If the City determines that the plan meets the requirements of this Ordinance, the City shall issue a permit valid for a specified period of time that authorizes the land disturbance activity contingent on the implementation and completion of the plan.
- C. **Not Meeting Requirements.** If the City determines that the plan does not meet the requirements of this Ordinance, the City shall not issue a permit for the land disturbance activity. The plan must be resubmitted for approval before the land disturbance activity begins. All land use and building permits shall be suspended until the developer has an approved plan.
- D. **Amendments.** The applicant must amend the plan as necessary to include additional requirements such as additional or modified BMPs designed to correct problems identified or address situations whenever:
1. A change in design, construction, operation, maintenance, weather, or seasonal conditions that has a significant effect on the discharge of pollutants to surface waters or underground waters.
 2. Inspections indicate the plan is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters or that the discharges are causing water quality standard exceedances.
 3. The plan is not achieving the general objectives of controlling pollutants or is not consistent with the terms and conditions of the permit.

Subd. 10. Waivers. The City Council, upon recommendation of the City Engineer, may waive a requirement of this Ordinance upon making a finding that the alternate design of the application will not adversely effect the standards of this Ordinance and the waiver of such requirement will not adversely affect the standards and requirements set forth in this Ordinance. The City Council may require as a condition of the waiver, such dedication or construction, or agreement to dedicate or construct as may be necessary to adequately meet said standards and requirements.

Subd. 11. Stormwater Management Plan Inspections and Enforcement.

- A. **Inspections.** The City will conduct inspections on a regular basis to ensure that the plan is properly installed and maintained. In all cases the inspectors will attempt to work with the builder or developer to maintain proper erosion and sediment control at all sites. In cases where cooperation is withheld, the City shall issue construction stop work orders, until erosion and sediment control measures meet the requirements of this Ordinance. An inspection must follow before work can commence. Inspections are required as follows:
1. Before any land disturbing activity begins.
 2. For residential construction, at the time of footing, framing and final inspections.
 3. At the completion of the project.

4. Prior to the release of any financial securities, if applicable.
5. Random inspections during the course of the project to ensure compliance with the SWPPP, including after a storm event greater than 0.5 inches over 24 hours.

B. Notification of Failure of the SWPPP. The City shall notify the permit holder of the failure of the SWPPP's measures.

1. **Initial contact.** The initial contact will be to the party or parties listed on the application and/or the plan as contacts. Except during an emergency action, forty-eight (48) hours after notification by the City or seventy-two (72) hours after the failure of erosion control measures, whichever is less, the City at its discretion, may begin corrective work. Such notification should be in writing, but if it is verbal, a written notification should follow as quickly as practical. If after making a good faith effort to notify the responsible party or parties, the City has been unable to establish contact, the City may proceed with corrective work. There are conditions when time is of the essence in controlling erosion. During such a condition the City may take immediate action, and then notify the applicant as soon as possible.
2. **Erosion off-site.** If erosion breaches the perimeter of the site, the applicant shall immediately develop a cleanup and restoration plan, obtain the right-of entry from the adjoining property owner, and implement the cleanup and restoration plan within forty-eight (48) hours of obtaining the adjoining property owner's permission. In no case, unless written approval is received from the City, may more than seven (7) calendar days go by without corrective action being taken. If in the discretion of the City, the permit holder does not repair the damage caused by the erosion, the City may do the remedial work required. When restoration to wetlands and other resources are required, the applicant shall be required to work with the appropriate agency to ensure that the work is done properly.
3. **Erosion into streets, wetlands or water bodies.** If eroded soils (including tracked soils from construction activities) enters streets, wetlands, or other water bodies, cleanup and repair shall be immediate. The applicant shall provide all traffic control and flagging required to protect the traveling public during the cleanup operations.

C. Failure to do Corrective Work. When an applicant fails to conform to any provision of this policy within the time stipulated, the City may take the following actions.

1. Issue a stop work order, withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.

2. Revoke any permit issued by the City to the applicant for the site in question or any other of the applicant's sites within the City's jurisdiction.
3. Correct the deficiency or hire a contractor to correct the deficiency. The issuance of a permit constitutes a right-of-entry for the City or its contractor to enter upon the construction site for the purpose of correcting deficiencies in erosion control.
4. Require reimbursement to the City for all costs incurred in correcting stormwater pollution control deficiencies. If payment is not made within thirty (30) days after the City incurs costs, the City will halt all work on the project site and assess any reimbursement costs to the property. As a condition of the permit, the owner shall waive notice of any assessment hearing to be conducted by the City, concur that the benefit to the property exceeds the amount of the proposed assessment, and waive all rights by virtue of Minnesota Statute 429.081 to challenge the amount or validity of assessment.

D. Right of Entry and Inspection.

1. **Powers.** The applicant shall allow the City of Alexandria and their authorized representatives, upon presentation of credentials to:
 - a. Enter upon the permitted site for the purpose of obtaining information, examination of records, conducting investigations or surveys.
 - b. Bring such equipment upon the permitted development as is necessary to conduct such surveys and investigations.
 - c. Examine and copy any books, papers, records, or memoranda pertaining to activities or records required to be kept under the terms and conditions of this permitted site.
 - d. Inspect the stormwater pollution control measures.
 - e. Sample and monitor any items or activities pertaining to stormwater pollution control measures.

Subd. 12. Development Agreement. A development agreement regarding stormwater management may be required for any project that requires a Stormwater Management Plan. The agreement shall guarantee the performance of the work described and delineated on the approved plan. In addition, the agreement will describe the City's inspection policy. Should the applicant fail to meet any of the terms of the development agreement, the City may proceed with any of the actions listed on Subd.11.B.

Subd. 13. Construction Activities. Construction operations must at a minimum comply with any applicable federal or state permit and stormwater management plan in addition to the following best management practices:

- A. **Site Dewatering:** Water pumped from the site shall be treated by temporary sedimentation basins, grit chambers, sand filters, upflow chambers, hydrocyclones, soil concentrators or other appropriate controls as deemed

necessary. Water may not be discharged in a manner that causes erosion, sedimentation, or flooding on the site, on downstream properties, in the receiving channels, or in any wetland.

- B. **Waste and Material Disposal:** All waste and unused building materials (including garbage, debris, cleaning wastes, wastewater, petroleum based products, paints, toxic materials, or other hazardous materials) shall be properly disposed of off-site and shall not be allowed to be carried by runoff into a receiving channel, storm sewer system, or wetland.
- C. **Tracking Management:** Each site shall have roads, access drives and parking areas of sufficient width, length and surfacing to minimize sediment from being tracked onto public or private roadways. Any material deposited by vehicles or other construction equipment onto a public or private road shall be removed (not by flushing) before the end of each working day.
- D. **Water Quality Protection:** The construction contractor, including the general contractor and all subcontractors, shall be required to control oil and fuel spills and chemical discharges to prevent such spills or discharges from entering any watercourse, sump, sewer system, water body, or wetland.
- E. **Site Erosion and Sedimentation Control:** Construction operations must include erosion and sedimentation control measures meeting accepted design criteria, standards and specifications contained in the Minnesota Stormwater Manual or other standards determined acceptable by the City.
- F. **Concrete Washout Area:** All liquids and solid waste generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.
- G. **Storm Drain Protection:** All storm drain inlets shall be protected during construction with control measures as contained in the SWPPP. These devices shall remain in place until final stabilization of the site. A regular inspection and maintenance plan shall be developed in implemented to assure these devices are operational at all times. Storm drain protection must conform to the protection alternatives pre-approved by City Staff and available at City Hall and on the City Website.
- H. **Soil Stockpiling:** All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles and the constructed base components of roads are exempt from this requirement.

Subd. 14. Stormwater Management Criteria for Permanent Facilities. Stormwater control facilities included as part of the final design for a permanent development shall be addressed in the stormwater management plan and shall meet the following criteria:

- A. **Rate Control Requirements:** Future discharge rates from new development and redevelopment, resulting in one-half acre or more of new impervious area or one acre or more of disturbed land, will not exceed existing discharge rates for the 2-year, 10-year, and 100-year critical storm events. In any area where downstream flooding is a concern the City may require additional rate control. Design calculations for the 2-year, 10-year, and 100-year storm events must be submitted to the City for review and approval. For regional detention or stormwater management system, the city engineer shall recommend a proposed system charge to be administered by the City Council based upon an approved watershed master plan and an analysis of required drainage systems, projected costs and flood protection benefits provided to those properties directly or indirectly impacted by the regional detention or stormwater management system.
- B. **Design of Storage Facilities:** The design of stormwater storage facilities shall accommodate a 100-year critical duration rainfall event, with this storage being provided above the normal outlet elevation.
- C. **Design of Lateral and Collector Systems:** Lateral and collector systems shall be designed to accommodate a 10-year return frequency storm event. These systems shall be defined as storm sewer that collects and conveys runoff from catch basins or other inlets from a localized drainage area to a trunk system or ponding facility.
- D. **Design of Trunk Systems:** Trunk systems shall be designed to convey the anticipated 100-year critical event stormwater flow rate. A trunk system shall be defined as the main channel of the stormwater system that receives water from multiple laterals or collectors or serves as an outlet and downstream conveyance system for a stormwater storage facility.
- E. **Overland Overflow:** An overland overflow should be provided for all lateral, collector, and trunk systems to accommodate the 100-year critical duration rainfall event and prevent structural inundation should an obstruction occur in these systems.
- F. **Clogging Factor:** For collection systems not designed to meet rate control standards (e.g. catch basins) a clogging factor of 50% will be utilized in sizing intake structures.
- G. **Rate Control Diameter:** No orifice having a diameter less than 4" is allowed in the design of rate control structures within the City. If a structure having an opening less than 4" is required to meet rate control requirements, the requirement will be increased to allow a rate consistent with an opening of this size. If a lower discharge rate is required a weir may be used to meet the requirements.

- H. **Emergency Spillway:** An emergency spillway (emergency outlet) from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than the anticipated 100-year peak inflow rate to the basin, or three times the 100-year peak discharge rate from the basin, whichever is greater.
- I. **Natural Features of Site:** The applicant shall give consideration to reducing the need for stormwater management system facilities by incorporating the use of natural topography and land cover such as wetlands, ponds, natural swales and depressions as they exist before development to the degree that they can accommodate the additional water flow without compromising the integrity or quality of these natural features.
- J. **Landlocked Basins:** Areas with landlocked basins shall be modeled to accommodate a back-to-back 100-year, 24-hour rainfall event and the 100-year, 10-day runoff event. The highest water elevation in the basin from this analysis shall be the 100-year high water level.
- K. **Landlock Basin Outlets:** Outlets for landlocked areas will be allowed provided the outlet complies with wetland and floodplain regulations and the basin provides storage below the outlet for either 1) the back-to-back 100-year, 24-hour event or 2) the 100-year, 10-day runoff event; whichever is greater. In addition, there must be no negative downstream impacts resulting from the outlet.
- L. **Flood Protection:**
1. Residential, non-residential and other structures shall ordinarily be elevated on fill so that the basement, or first floor if there is no basement, is one (1) foot above the Regulatory Flood Protection Elevation.
 2. For areas outside of a floodplain, the lowest floor of a structure, not including boathouse, piers and docks, must be three (3) feet above the highest known water level. IN the case where the high water level is unknown, the elevation of the line of permanent shoreland vegetation should be used as the high water elevation.
 3. No structure, fill, deposits, obstruction, storage of materials, equipment, or other uses may be allowed in the floodplain that reduces the floodwater storage capacity of the floodplain or increases flood height. Compensating floodwater storage area shall be provided for any obstruction which decreases flood storage. This compensating volume shall be equal to or greater than the total volume of the obstruction. Additional detail is provided in the City's floodplain district.
 4. A plan review by the City is required for any project that is within the 100-year floodplain, upland flood storage area, or changes the timing, storage, or carrying capacity of any tributaries in the 100-year floodplain.

5. All areas at or below the 100-year floodplain area on private property will be covered by a drainage and utility easement or outlot dedicated to the City upon development or redevelopment.

M. Water Quality Treatment Standards: Stormwater treatment must be designed to remove 90% of total suspended solids on an average annual basis. Treatment can be provided in on-site or regional systems and through permanent ponding, infiltration, filtration, or a combination of BMPs that will meet these requirements. This requirement is anticipated to result in 40-60% total phosphorus removal.

N. Infiltration/Volume Control: For the subwatersheds as shown on Figure A (Subwatershed Map), except where conditions listed below are present, stormwater runoff abstraction via infiltration, evapotranspiration, capture, and/or reuse of stormwater runoff is required in the amount equivalent to 1 inch of runoff over the impervious surfaces for development or redevelopment that creates ½ acre or more new impervious surfaces or disturbs one acre or more of land. Runoff must be infiltrated within 72 hours. To simplify the review process, no runoff will be assumed from pervious surfaces from a one inch rainfall event.

1. Infiltration will not be required nor allowed in areas where there are known groundwater contaminants, where the soils are not suitable for infiltration (unsuitable soils are those with infiltration rates less than 0.3 inches/hour), or in areas where there is less than three feet of separation between the bottom of the infiltration system and the groundwater. Percolation tests shall be required to verify the infiltration rates of on-site soils following the construction of infiltration BMPs.
2. Pretreatment of stormwater is required prior to discharge to an infiltration system. This pretreatment shall collect sediment and be easily accessed for inspection and maintenance.

O. Permanent Pond Water Quality Standards: If a permanent water quality pond is used to meet water quality requirements, the pond is required to meet the following criteria. If a pond is designed using this criteria, it will be assumed to meet the City standard of 90% TSS removal and result in approximately 40-60% total phosphorus removal.

1. If the drainage area is within one of the subwatersheds of Figure A (Subwatershed Map), the permanent pool (dead pool) volume below the normal outlet must be greater than or equal to the runoff from a 2.5-inch storm event over the drainage area.
2. If the drainage area is within one of subwatersheds shown on Figure A (Subwatershed Map), the permanent pool volume must allow for 1800 ft³ for each impervious acre that drains to the pond.

3. Permanent pool average depth between 4 and 10 feet.
4. An emergency outlet to control the 100-year storm event.
5. Basin slopes no steeper than 3:1.
6. A basin shelf (10 feet wide and 1 foot below the normal water level) to enhance wildlife habitat, reduce safety hazards, and improve maintenance access.
7. Flood pool volume above the normal outlet so that peak discharge rates from the 2-year, 10-year, and 100-year storm events are no greater than existing conditions.
8. Safety considerations will be made in the design of permanent water quality ponds.

P. **Drainage and Utility Easements:** New stormwater management BMPs (e.g. ponds, infiltration systems, swales) constructed as part of private development shall be covered by drainage and utility easements or outlots that are dedicated to the City. Maintenance responsibilities for these areas will be spelled out in a Developer's Agreement.

Q. **Skimmers:** The City requires skimmers or other devices, with the intent to remove floatables, in the construction of new pond outlets and the addition of skimmers to existing systems whenever feasible and practical. The designs shall provide for skimmers that extend a minimum of four inches below the water surface and minimize the velocities of water passing under the skimmer to less than 0.5 feet per second for rainfall events having a 99% frequency. Wood skimmers are not allowed.

R. **Habitat and Aesthetic Enhancement:** The City encourages the design of stormwater management features that provide an opportunity to enhance the habitat and aesthetics of the area. This includes providing upland buffers around ponds, seeding the area with native vegetation, and designing the slopes equal to or flatter than 4:1.

S. **Combination of Practices:** A combination of successive practices may be used to achieve the applicable minimum control requirements specified. Justification shall be provided by the applicant for the method selected.

Subd. 15. Buffer Protection for Wetlands.

- A. For all development which changes land use or requires platting, a minimum 10-foot buffer of native vegetation is required around wetlands. Public trails and management of noxious weeds are allowed within the buffer. Planting of non-native species is not allowed within the buffer.

Subd. 16. Stormwater and Urban Runoff Pollution Control

A. Illegal Disposal

1. No person shall throw, deposit, place, leave, maintain, or keep or permit to be thrown, placed, left, maintained or kept, any refuse, rubbish, garbage, or any other discarded or abandoned objects, articles, or accumulations, in or upon any street, alley, sidewalk, storm drain, inlet, catch basin conduit or drainage structure, business place, or upon any public or private plot of land in Alexandria, so that the same might be or become a pollutant, except in containers, recycling bags, or other lawfully established waste disposal facility.
2. No person shall intentionally dispose of grass, leaves, dirt, or other landscape debris into a water resource buffer, street, road, alley, catch basin, culvert, curb, gutter, inlet, ditch, natural watercourse, flood control channel, canal, storm drain or any fabricated natural conveyance.

B. Illicit Discharges and Connection.

1. No person shall cause any illicit discharge to enter the municipal storm water system unless such discharge: (1) consists of non-storm water that is authorized by an NPDES point source permit obtained from the MPCA; or (2) is associated with fire fighting activities.
2. No person shall use any illicit connection to intentionally convey non-storm water to the municipal storm water system.

C. Good Housekeeping Provisions. Any owner or occupant of property within Alexandria shall comply with the following good housekeeping requirements:

1. No person shall leave, deposit, discharge, dump, or otherwise expose any chemical or septic waste in an area where discharge to streets or storm drain system may occur. This section shall apply to both actual and potential discharges.
2. For pools, water should be allowed to sit seven days to allow for chlorine to evaporate before discharge. If fungicides have been used, water must be tested and approved for discharge to the wastewater treatment plant.
3. Runoff of water from residential property shall be minimized to the maximum extent practicable. Runoff of water from the washing down of paved areas in commercial or industrial property is prohibited unless necessary for health or safety purposes and not in violation of any other provisions in City codes.

D. Storage of Materials, Machinery, and Equipment. Objects, such as motor vehicle parts, containing grease, oil or other hazardous substances, and unsealed receptacles containing hazardous materials, shall not be stored in areas susceptible to runoff. Any machinery or equipment that is to be repaired or maintained in areas susceptible to runoff shall be placed in a confined area to contain leaks, spills, or discharges.

E. Removal of Debris and Residue. Debris and residue shall be removed and disposed of properly, as noted below:

1. All motor vehicle parking lots shall be swept, at a minimum of twice a year to remove debris. Such debris shall be collected and disposed of properly. However, parking lots are not required to be swept for one month following a day on which precipitation of one-half inch or more occurs.
2. Fuel and chemical residue or other types of potentially harmful material, such as animal waste, garbage or batteries, which is located in an area susceptible to runoff, shall be removed as soon as possible and disposed of properly. Household hazardous waste may be disposed of through community collection program or at any other appropriate disposal site and shall not be place in a trash container.

Subd. 17. Severability. The provisions of this Ordinance are severable, and if any provisions of this Ordinance, or application of any provision of this Ordinance to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Ordinance must not be affected thereby.

Subd. 18. Abrogation and Greater Restrictions. It is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this Ordinance imposes greater restrictions, the provisions of this Ordinance shall prevail. All other Ordinances inconsistent with this Ordinance are hereby repealed to the extent of the inconsistency only.

Subd. 19. Enforcement. The City shall be responsible for enforcing this Ordinance.

Subd. 20. Penalties. Any person, firm, or corporation failing to comply with or violating any of these regulations, shall be deemed guilty of a misdemeanor and be subject to a fine or imprisonment or both. All land use and building permits must be suspended until the applicant has corrected the violation. Each day that a separate violation exists shall constitute a separate offense.